

U.S.S.N. 10,804,713

Specification Amendments

Please replace paragraph 0003 with the following rewritten paragraph:

0003 Yoo et al., U.S. patent No. 5,729,041 discloses an integrated circuit including a conductive fusible link that may be blown by heating with laser irradiation. The integrated circuit includes a silicon substrate, first insulating layer, a fusible link in the first layer, a second insulating layer overlying the first layer and the fusible link, an opening through the second layer exposing the fuse, and a protective layer over the surfaces of the opening. A laser is directed through the opening in the protective layer to melt the fusible link. The protective layer is highly transparent to the laser beam and does not interfere with the laser melting (trimming) evaporation. Further, the protective layer prevents contaminants from diffusing into the opening to harm adjacent semiconductor devices. The protective layer may be formed from plasma enhanced chemical vapor deposition silicon nitride. The laser can be a Yumium-Yag laser operated at a wavelength ranging from 1037-1057 nanometers and a pulse less than 35 ns. The fuse can be formed of a metal such as aluminum, platinum silicide, tantalum tungsten or polysilicon. Alternatively, the fuse can be formed of a polycide, such as titanium polycide, tungsten polycide, or molybdenum polycide. The fuse typically has a thickness ranging from 500-5000 angstroms and length ranging from 5-10 microns and a width in the range of 1-3 microns.

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Please replace paragraph 0004 with the following rewritten paragraph:

0004 Huang et al., U.S. patent No. 6,121,073 discloses a fuse structure and method of deleting redundant circuit elements on a semiconductor device. The fuse structure is useful in increasing the repair yield on RAM chips by deleting defective rows of memory cells. The method involves forming a fuse area in a patterned electrical circuit layer also used to form interconnections. The fuse may be a polysilicon layer. A relatively thin layer of about 0.1 micrometers of insulation is deposited having a uniform thickness across the substrate. The next level of patterned interconnections is formed with a portion of the layer aligned over the fuse area to serve as an etch-stop layer. The conducting layers can be first and second polysilicon layer on a RAM chip. The remaining multilevel of interconnections are then formed having a number of relatively thick entry-level dielectric layers interposed which can have varying thicknesses across the substrate. The fuse window[[s]] were openings are then selectively etched in the entry-level dielectric layers to the etch stop layer and the etch stop layer is selectively etched in the fuse window to the insulating layer over the fuse area. The process allows fuse structures to be built without over etching and thereby causing fuse damage. The uniformly thick insulating layer allows repeatable and reliable laser evaporation to open the desired fuses.

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Please replace paragraph 0005 with the following rewritten paragraph:

0005 Ying et al., U.S. patent No. 6,330,252 6,300,252 discloses a method of etching fuse windows through a passivation layer at least two inter-metal dielectric layers that are deposited on top of the fuse when the fuse is embedded in an insulating material including a top layer of silicon nitride on a semiconductor substrate. The method can be carried out by a two-step etching processing in which an opening is first etched for the fuse window through a passivation layer by a first etchant that has low selectivity to the passivation material and then the opening is etched through the inter-metal dielectric layers in a second etching process by a second etchant which has high selectivity to the silicon nitride etch-stop layer. The two-step etching process can be easily controlled so that the quality and yield of the resulting fuse window is improved. The fuse may be polycide fuse including a polysilicon layer and a tungsten silicide layer. The fuse is typically formed to a thickness in the range of about 600-6000 angstroms, a length in the range between 6-12 microns and a width ranging between 1-5 microns. The fuse can be suitably blown by the application of laser energy from a laser source such as Yttrium-Yag or Neodymium-Yag at a wavelength between about 1037-1057 nanometers, and energy of about 1-1.5 micro-joules and a pulse between about 30-50 ns.